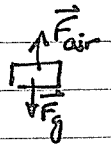
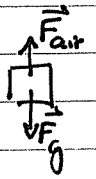
FBD's

#13 (a) 

(b) Remove $\vec{F}_g$ → feather would accelerate upward (slow down).

(c) Remove $\vec{F}_a$ → feather would accelerate down.

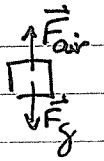
(d) As long as $\vec{F}_{air} = \vec{F}_g$, unif. $\vec{v}$.

#14 (a) 

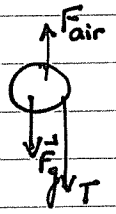
(b) as above

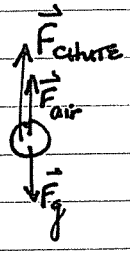
(c) as above

(d) Due to rock's mass + small flight distance, and that $\vec{F}_{air} \propto \vec{v}^2$, $\vec{F}_{air} < \vec{F}_g$ ∴ accelerate downward

#15 (b) 

(e) $\vec{F}_{NET} = 0$ ∴ no acceleration

#16 

#17 

#18